AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-3 (canceled).

Claim 4 (previously presented): The method of claim 31 wherein the concentration of the MET is about 0.1 mg/l.

Claim 5 (previously presented): The method of claim 31 wherein the medium in step (a) further comprises about 0.01 to 0.2 mg/l of α naphthalene acetic acid (NAA).

Claim 6 (canceled).

Claim 7 (previously presented): The method of claim 5 wherein the concentration of NAA is 0.05 mg/l.

Claim 8 (previously presented): The method of claim 31 wherein step (e) is carried out in the presence of about 0.05 to 0.2 mg/l of MET.

Claim 9 (canceled).

Claim 10 (previously presented): The method of claim 8 wherein the concentration of the MET is 0.1 mg/l.

Claim 11 (previously presented): The method of claim 8 wherein step (e) is further carried out in the presence of about 0.01 to 0.2 mg/l α naphthalene acetic acid (NAA).

Claim 12 (canceled).

Claim 13 (previously presented): The method of claim 11 wherein the concentration of NAA is 0.05 mg/l.

Claim 14 (previously presented): The method of claim 31 wherein step (b) is carried out in a callus inducing culture medium comprising myo-inositol, vitamin B_1 and 2iP.

Claim 15 (previously presented): The method of claim 31 wherein step (d) is carried out in a somatic embryo inducing culture medium comprising myo-inositol, vitamin B_1 and 2iP.

Claim 16 (previously presented): The method of claim 14 wherein the callus inducing culture medium comprises from about 50 to 150 mg/L of myo-inositol, from about 0.2 to 10 mg/L vitamin B_1 and from about 0.1 to 7.5 mg/L 2iP.

Claim 17 (previously presented): The method of claim 16 wherein the callus inducing culture medium comprises 100 mg/L myo-inositol, 0.4 mg/L vitamin B_1 and 5 mg/L 2iP.

Claim 18 (presently presented): The method of claim 15 wherein somatic embryo inducing culture medium comprises from about 50 to 100 mg/L myo-inositol, from about 0.2 to 10 mg/L vitamin B_1 and from about 0.1 to 0.5 mg/L 2iP.

Claim 19 (previously presented): The method of claim 18 wherein somatic embryo inducing culture medium comprises 100 mg/L myo-inositol, 0.4 mg/L vitamin B_1 and 5 mg/L 2iP.

Claim 20 (previously presented): The method of claim 31 wherein step (b) is carried out in a callus inducing culture medium comprising vitamin B_5, 2,4-D, $MgCl_2$ and glucose.

Claim 21 (previously presented): The method of claim 31 wherein step (d) is carried out in a somatic embryo inducing culture medium comprising vitamin B_5, 2,4-D, $MgCl_2$ and glucose.

Claim 22 (previously presented): The method of claim 20 wherein the callus inducing culture medium comprises from about 0.2 to 10 mg/L vitamin B_5, from about 0.05 to 0.15 mg/L 2,4-D, from about 0.4 to 1.2 mg/L, $MgCl_2$ from about 1% to 5% glucose.

Claim 23 (presently presented): The method of claim 22 wherein the callus inducing culture medium comprises 0.4 mg/L vitamin B_5, 0.1 mg/L 2,4-D, 0.8 mg/L $MgCl_2$ and 3% glucose.

Claim 24 (previously presented): The method of claim 21 wherein the somatic embryo inducing culture medium comprises from about 0.2 to 10 mg/L vitamin B_5, from about 0.05 mg/L to 0.15 mg/L 2,4-D, from about 0.4 to 1.2 mg/L, $MgCl_2$ from about 1% to 5% glucose.

Claim 25 (previously presented): The method of claim 24 wherein the somatic embryo inducing medium comprises 0.4 mg/L vitamin B_5, 0.1 mg/L 2,4-D, 0.8 mg/L $MgCl_2$ and 3% glucose.

Claim 26 (previously presented): A method according to claim 31, wherein the medium of steps (a), (b), (c), (d) or (e) further comprises from about 1.0 g/L to 3.0 g/L gellan gum.

Claim 27 (canceled).

Claim 28 (previously presented): The method of claim 31 wherein the step of inducing somatic embryo culture is carried out in a somatic embryo-inducing medium comprising a nitrate in an amount from about 1900 to 5700 mg/L.

Claim 29 (canceled).

Claim 30 (previously presented): A method according to claim 28, wherein the nitrate is KNO_3.

Claim 31 (previously presented): A method for producing a transgenic cotton plant comprising:

(a) preparing explants from fibrous roots of cotton seedlings cultured in medium comprising about 0.05 mg/l to 0.2 mg/l of multi-effect triazole (MET);

(b) culturing said root explants in medium comprising a plant hormone selected from the group consisting of (I) (2,4-dichlorophenoxy)acetic acid (2,4-D), (ii) 6-γγ-dimethylallyl(amino) purine (2iP), (iii) a mixture of 2,4-D and kinetin and (iv) a mixture of 2iP and α naphthalene acetic acid to induce callus formation;

(c) transforming said callus with *Agrobacterium tumifaciens* comprising a first DNA encoding a chimeric gene of interest to effect the stable transfer of said chimeric gene to the genome of cells comprising the callus tissue;

(d) culturing said transformed callus to induce somatic embryos and development of plantlets from said somatic embryos; and

(e) rooting said plantlets to produce transgenic cotton plants having said gene of interest.

Claim 32 (previously presented): The method of claim 31 wherein said DNA is selected from the group consisting of an herbicide resistance gene, a gene that confers glyphosate resistance, a shikimate synthase gene and a *Bacillus thuringiensis* toxin gene.

Claims 33-35 (canceled).

Claim 36 (previously presented): The method of claim 31 wherein said *Agrobacterium tumifaciens* further comprises a second DNA encoding a selectable marker gene to effect the stable transfer of said selectable marker gene to the genome of cells comprising the callus tissue.

Claim 37 (previously presented): The method of claim 31, wherein said seedlings are seedlings of *Gossypium hirsutum* cv. Coker 312.

Claim 38 (previously presented): The method of claim 28, wherein the amount of nitrate is about 3800 mg/L.

Claim 39 (previously presented): A method according to claim 38, wherein the nitrate is KNO_3.

Claim 40 (new): A method for producing a transgenic cotton plant comprising:

(a) germinating seeds by culturing on medium comprising about 0.05 mg/l to 0.2 mg/l of multi-effect triazole (MET) and about 0.01 to 0.2 mg/l of α naphthalene acetic acid (NAA) to produce seedlings with fibrous roots;

(b) culturing fibrous roots on medium comprising a plant hormone selected from the group consisting of (I) (2,4-dichlorophenoxy)acetic acid (2,4-D), (ii) 6-γγ-dimethylallyl(amino) purine

(2iP), (iii) a mixture of 2,4-D and kinetin and (iv) a mixture of 2iP and α naphthalene acetic acid to prepare fibrous roots for culturing with *Agrobacterium tumifaciens*;

(c) transforming the prepared fibrous roots by incubating the fibrous roots with a cell suspension of *Agrobacterium tumifaciens* comprising a first DNA encoding a chimeric gene of interest to effect the stable transfer of said chimeric gene to the genome of cells of the fibrous roots;

(d) culturing the transformed fibrous roots on medium comprising a plant hormone selected from the group consisting of (I) (2,4-dichlorophenoxy)acetic acid (2,4-D), (ii) 6-γγ-dimethylallyl(amino) purine (2iP), (iii) a mixture of 2,4-D and kinetin and (iv) a mixture of 2iP and α naphthalene acetic acid to produce cultured transformed fibrous roots;

(e) culturing the cultured transformed fibrous roots on medium comprising a plant hormone selected from the group consisting of (I) (2,4-dichlorophenoxy)acetic acid (2,4-D), (ii) 6-γγ-dimethylallyl(amino) purine (2iP), (iii) a mixture of 2,4-D and kinetin and (iv) a mixture of 2iP and α naphthalene acetic acid to induce callus formation;

(f) culturing the callus to induce somatic embryos and development of plantlets from said somatic embryos; and

(g) rooting said plantlets to produce transgenic cotton plants having said gene of interest.

Claim 41 (new): The method of claim 40 wherein said *Agrobacterium tumifaciens* further comprises a second DNA encoding a selectable marker gene to effect the stable transfer of said selectable marker gene to the genome of cells of the fibrous roots.

Claim 42 (new): The method of claim 40, wherein said seeds are seeds of *Gossypium hirsutum* cv. Coker 312.